

Notice of Allowability	Application No.	Applicant(s)	
	10/683,659	RUSH ET AL.	
	Examiner	Art Unit	
	Timothy P. Solak	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment received 12/06/2004.
2. ☒ The allowed claim(s) is/are 11-22 and 24-59 (renumbered as Claims 1-48).
3. ☒ The drawings filed on 06 December 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
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| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>12/06/2004</u> 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>01/29/2005</u>. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
|--|--|

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Alison de Runtz on 01/25/2005.

The application has been amended as follows:

In the Claims:

The proposed amendment to the Claims, attached, has been entered.

In the Title:

The title has been deleted and --Device and Method Employing Shape Memory Alloy-- has been substituted therefore.

Response to Arguments

Applicant's arguments, see page 15, third paragraph, filed 12/06/2004, with respect to Figure 3, have been fully considered and are persuasive. Accordingly, the objection to Figure 3, set forth in the previous Office Action is hereby withdrawn.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance: the prior art of record, does not teach or make obvious the apparatus/method of Claims 11, 49 and 52, namely a device for pumping a predetermined volume of fluid comprising: a cavity at least partially defined by a resilient housing, an inlet check valve, an outlet check valve, a member operably associated with the resilient housing, said member disposed in a first position by way of a biasing element and moveable therefrom to a second position, said member sufficient to fully compress the resilient housing; and an actuator comprising a shape memory alloy, the actuator operably associated with the member and of a construction sufficient to move the member from the first position to the second position when the shape memory alloy undergoes a dimensional change and sufficient to move the member from the second position to the first position when the shape memory alloy returns toward the original condition.

The closest related art of record is Rogen (4,018,547) who teaches a member disposed in a first position by way of a biasing force and an actuator comprising a shape memory alloy, the actuator operably associated with the member and of a construction sufficient to move the member from the first position to the second position when the shape memory alloy undergoes a dimensional change and sufficient to move the member from the second position to the first position when the shape memory alloy returns toward the original condition (i.e. "a long metal rod" see abstract, line 4). Rogen, however does not teach or make obvious a cavity at least partially defined by a resilient housing, said member sufficient to fully compress the resilient housing.

Brenan et al. (6,059,546) teaches a cavity at least partially defined by a resilient housing (see Figure 3), a member sufficient to fully compress the resilient housing and an actuator operably associated with the member and of a construction sufficient to move the member from the first position to the second position when the shape memory alloy undergoes a dimensional change and sufficient to move the member from the second position to the first position when the shape memory alloy returns toward the original condition. Brenan et al., however, does not teach or make obvious a biasing element operably associated with the member and of a construction sufficient to provide a biasing force. If the device disclosed by Brenan et al. were modified such that the member is biased to a first position, the device would fail to operate as intended.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy P. Solak whose telephone number is 571 272-4833. The examiner can normally be reached on Monday through Friday from 9am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J. Tyler can be reached on 571 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


tps

February 16, 2005


CHERYL TYLER
SUPERVISORY PATENT EXAMINER